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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/728,953	12/08/2003	Koji Kitani	03560.003412.	9008

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NEW YORK, NY 10112

EXAMINER

TALBOT, BRIAN K

ART UNIT	PAPER NUMBER
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1762

MAIL DATE	DELIVERY MODE
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06/18/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/728,953	Applicant(s) KITANI, KOJI	
	Examiner Brian K. Talbot	Art Unit 1762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 April 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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1. The amendment filed 4/18/07 has been considered and entered. Claims 1-5 remain in the application.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. In light of the response filed 4/18/07, the 35 USC 103 rejection over Applicant's admitted state of the art (specification, [0002]-[0011]) (a) alone has been withdrawn.

Claim Rejections - 35 USC § 103

4. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted state of the art (specification, [0002]-[0011]) in combination with Huggins (6,153,268) or JP 49-022119.

Applicant's admitted state of the art (specification, [0002]-[0011]) teaches forming a piezoelectric film by gas deposition techniques comprising ejecting ultra-fine particles having a perovskite structure on a substrate and polarizing the layer to form the piezoelectric film. The electric field applied in the polarizing step has an intensity of from 1-5 kV/mm. The substrate can be metal or resin.

Applicant's admitted state of the art (specification, [0002]-[0011]) fails to teach applying the electric field to the ultra-fine particles while traveling toward the substrate as opposed to on the substrate.

Huggins (6,153,268) teaches a method of producing oriented piezoelectric films. This is done by bombarding a target comprising a piezoelectric material, dislodging the particles, ionizing the particles, and electrostatically attracting the dislodged particles to the substrate (abstract and Fig. 2). Huggins (6,153,268) teaches ionizing the particles by establishing an electric field within the chamber (22) with a coil (36) placed around the chamber (22) (col. 3, lines 20-50).

JP 49-022119 teaches a piezoelectric thin films produced by spraying the piezoelectric particles and subjecting them to an electric field to control the polar axes for producing a piezoelectric film (abstract and Figs. 1-3).

Therefore it would have been obvious for one skilled in the art at the time the invention was made to have modified Applicant's admitted state of the art (specification, [0002]-[0011]) by incorporating an electric field as evidenced by Huggins (6,153,268) or JP 49-022119 to produce the oriented piezoelectric films without the need for a subsequent polarizing step.

Response to Amendment

5. Applicant's arguments filed 4/18/07 have been fully considered but they are not persuasive.

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Applicant argued that Applicant's admitted state of the art (specification, [0002]-[0011]) fails to teach applying a potential difference between and ejecting device and the substrate or in the vicinity of the ejecting device and the substrate to apply an electric field to the ultra-fine particle and that Huggins (6,153,268) or JP 49-022119 fail to teach an electric field between an ejecting device and a substrate.

The Examiner disagrees. Applicant is reminded that attacking individual references and pointing out the differences between the reference and each individual reference is not sufficient to overcome a rejection based on a combination of the references. One cannot show non-obviousness by attacking references individually where the rejections are based on combinations of references. *In re Keller*, 208 USPQ 871 (CCPA 1981); *In re Merck & Co., Inc.*, 231 USPQ 375 (Fed. Cir. 1986). Furthermore, the references must be taken collectively as the test of obviousness is not express suggestion of the claimed invention in any or all references but rather what the references taken collectively would suggest to those of ordinary skill in the art presumed to be familiar with them. *In re Rosselet*, 347 F.2d 847, 146 USPQ 183 (CCPA 1965); *In re Hedges*, 783 F.2d 1038. In this case Huggins (6,153,268) clearly teaches applying an electric field between the substrate and the "source of piezoelectric materials", i.e. target. Hence, the combination would teach and ejecting device (Applicant's admitted state of the art (specification, [0002]-[0011])) having a electric field applied between the ejecting device and the substrate. Regarding JP 49-022119, the claims also recite "in the vicinity" of the ejecting device and the combination rejection would meet the claimed limitation.

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6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian K. Talbot whose telephone number is (571) 272-1428. The examiner can normally be reached on Monday-Friday 6AM-3PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy H. Meeks can be reached on (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BK Talbot 6/13/07

Brian K Talbot
Primary Examiner
Art Unit 1762

BKT